

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:)
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Shunpei Yamazaki et al.)
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Serial No: 09/747,731)
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Filed: December 22, 2000)
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Art Unit: 1792)
)
Examiner: William P. Fletcher, III)
)
Confirm No.: 4617)
)
For: METHOD OF MANUFACTURING)
A DISPLAY DEVICE)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE (J) AFTER FINAL

Dear Sir:

Applicants have the following response to the Final Rejection of December 4, 2009. Applicants will address each of the rejections in the order in which they appear in the Final Rejection.

Claim Rejections – 35 USC §103

Claims 37, 43, 48, 53, 64, 75 and 157

In the Final Rejection, the Examiner rejects Claims 37, 43, 48, 53, 64, 75 and 157 under 35 USC §103(a) as being unpatentable over Arai et al. (US 5,817,366) in view of Bennett (US

2,435,997), Grothe et al. (US 3,391,490), and Nagayama et al. (US 5,701,055). This rejection is respectfully traversed.

In particular, independent Claim 37 includes the steps of:

“disposing a substrate in *the evaporation chamber*;
fixing a mask to the substrate wherein the mask is located between the substrate and the first evaporation source;
evaporating a first material from the first evaporation source to deposit the first material over the substrate *in the evaporation chamber*;
transferring the second evaporation source from the second chamber *into the evaporation chamber* after evaporating the first material;
evaporating a second material from the second evaporation source to deposit the second material over the substrate *in the evaporation chamber*; and
repeatedly moving a relative position of the second evaporation source with respect to the substrate along the second direction during the step of evaporating the second material in order that a same portion of the substrate is coated with the second material at least twice” (emphasis added).

Each of these steps occurs in the same evaporation chamber. By using the same evaporation chamber, the first material and the second material form laminate layers for a short time. The second material is pre-heated in the second chamber before transferring the second evaporation source. Further, the claimed invention has an advantage in that transferring the second evaporation source from the second chamber into the evaporation chamber is performed footprint downsizing for manufacturing a full color display device. For example, an apparatus having the second chamber is explained using Fig 8. The apparatus in Fig. 8 is smaller than an apparatus in Fig.7.

In contrast, neither Arai, Bennett, Grothe, nor Nagayama disclose or suggest that layers are formed in the same chamber. In addition, these references do not disclose or suggest that the second evaporation source transfers from the second chamber into the evaporation chamber after evaporating the first material.

Applicants explained this point in Applicants' prior response (Amendment I filed October 30, 2009). However, these features are not discussed in the rejection of the claims in the Final Rejection. In particular, there is no discussion of where the feature of having the layers formed in the same chamber (i.e. the evaporation chamber in Claim 37) is allegedly shown in the cited references. Accordingly, it is respectfully requested that the Examiner specifically address this point in his reply to this response.

Therefore, independent Claim 37 is not disclosed or suggested by the cited references, and Claim 37 and those claims dependent thereon are patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claims 38, 48, 56, 65, 76, 153 and 158

The Examiner also rejects Claims 38, 48, 56, 65, 76, 153 and 158 under 35 USC §103(a) as being unpatentable over Arai et al. in view of Bennett, Grothe et al. and Nagayama et al. and further in view of Monk (US 4,187,801). This rejection is also respectfully traversed.

For similar reasons as discussed above for Claim 37, independent Claim 38 is also not disclosed or suggested by Arai, Bennett, Grothe, or Nagayama. In addition, Monk does not disclose or suggest the step of transferring the second evaporation source from the second chamber into the evaporation chamber after evaporating the first material.

Furthermore, there is no discussion of where the feature of having the layers formed in the same chamber (i.e. the evaporation chamber in Claim 38) is allegedly shown in the cited references.

Therefore, independent Claim 38 is not disclosed or suggested by the cited references, and Claim 38 and those claims dependent thereon are patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claims 39, 48, 53, 57, 66, 77 and 159

The Examiner also rejects Claims 39, 48, 53, 57, 66, 77 and 159 under 35 USC §103(a) as being unpatentable over Arai et al. in view of Nagayama et al., Feuerstein et al. (US 4,627,989), Bennett and Yamamoto et al. (JP 11-61386, US 6,179,923). This rejection is also respectfully traversed.

For similar reasons as discussed above for Claim 37, independent Claim 39 is also not disclosed or suggested by Arai, Bennett, Grothe, or Nagayama.

In addition, neither Feuerstein nor Yamamoto disclose or suggest the step of transferring the second evaporation source from the second chamber into the evaporation chamber after evaporating the first material.

Furthermore, there is no discussion of where the feature of having the layers formed in the same chamber (i.e. the evaporation chamber in Claim 39) is allegedly shown in the cited references.

Therefore, independent Claim 39 is not disclosed or suggested by the cited references, and Claim 39 and those claims dependent thereon are patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claims 40, 48, 58, 67, 78, 154 and 160

The Examiner also rejects Claims 40, 48, 58, 67, 78, 154 and 160 under 35 USC §103(a) as being unpatentable over Arai et al. in view of Nagayama et al., Feuerstein et al., Bennett and Yamamoto et al. or in the alternative, over Arai et al, in view of Nagayama et al., Feuerstein et al., Bennett, Monk and Yamamoto et al. This rejection is also respectfully traversed.

For similar reasons as discussed above, independent Claim 40 is also not disclosed or suggested by the cited references.

Furthermore, there is no discussion of where the feature of having the layers formed in the same chamber (i.e. the evaporation chamber in Claim 40) is allegedly shown in the cited references.

Therefore, independent Claim 40 is not disclosed or suggested by the cited references, and Claim 40 and those claims dependent thereon are patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claims 54, 68, 71, 79 and 161

The Examiner also rejects Claims 54, 68, 71, 79 and 161 under 35 USC §103(a) as being unpatentable over Arai et al. in view of Nagayama et al., Bennett, Grothe et al. and Yamamoto et al. This rejection is also respectfully traversed.

For similar reasons as discussed above, independent Claim 54 is also not disclosed or suggested by the cited references.

Furthermore, there is no discussion of where the feature of having the layers formed in the same chamber (i.e. the evaporation chamber in Claim 54) is allegedly shown in the cited references.

Therefore, independent Claim 54 is not disclosed or suggested by the cited references, and Claim 54 and those claims dependent thereon are patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claims 55, 69, 72, 80, 155 and 162

The Examiner also rejects Claims 55, 69, 72, 80, 155 and 162 under 35 USC §103(a) as being unpatentable over Arai et al. in view of Nagayama et al., Bennett, Grothe et al., Monk, and Yamamoto et al. This rejection is also respectfully traversed.

For similar reasons as discussed above, independent Claim 55 is also not disclosed or suggested by the cited references.

Furthermore, there is no discussion of where the feature of having the layers formed in the same chamber (i.e. the evaporation chamber in Claim 55) is allegedly shown in the cited references.

Therefore, independent Claim 55 is not disclosed or suggested by the cited references, and Claim 55 and those claims dependent thereon are patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claim 59

The Examiner also rejects Claim 59 under 35 USC §103(a) as being unpatentable over Arai et al. in view of Nagayama et al., Bennett and Grothe et al., further in view of Spitzer et al. This rejection is also respectfully traversed.

This claim is a dependent claim. Therefore, for at least the reasons discussed above for independent claims, this claim is also patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claim 60

The Examiner also rejects Claim 60 under 35 USC §103(a) as being unpatentable over Arai et al. in view of Nagayama et al., Bennett, Grothe et al, and Monk, further in view of Spitzer et al. This rejection is also respectfully traversed.

This claim is a dependent claim. Therefore, for at least the reasons discussed above for independent claims, this claim is also patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claim 61

The Examiner also rejects Claim 61 under 35 USC §103(a) as being unpatentable over Arai et al., in view of Nagayama et al., Feuerstein et al., Bennett, and Yamamoto et al., and further in view of Spitzer et al. This rejection is also respectfully traversed.

This claim is a dependent claim. Therefore, for at least the reasons discussed above for independent claims, this claim is also patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claim 62

The Examiner also rejects Claim 62 under 35 USC §103(a) as being unpatentable over Arai et al., in view of Nagayama et al., Feuerstein et al., Bennett, and Yamamoto et al., or in the

alternative, over Arai et al., in view of Nagayama et al., Feuerstein et al., Bennett, Monk, and Yamamoto et al. and further in view of Spitzer et al. This rejection is also respectfully traversed.

This claim is a dependent claim. Therefore, for at least the reasons discussed above for independent claims, this claim is also patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claims 105-107

The Examiner also rejects Claims 105-107 under 35 USC §103(a) as being unpatentable over Arai et al. in view of Bennett, Grothe et al., and Nagayama et al. and further in view of Bertelsen. This rejection is also respectfully traversed.

These claims are dependent claims. Therefore, for at least the reasons discussed above for independent claims, these claims are also patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claims 108-110

The Examiner also rejects Claims 108-110 under 35 USC §103(a) as being unpatentable over Arai et al. in view of Bennett, Grothe et al., Nagayama et al., and Monk and further in view of Bertelsen. This rejection is also respectfully traversed.

These claims are dependent claims. Therefore, for at least the reasons discussed above for independent claims, these claims are also patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claims 111-113

The Examiner also rejects Claims 111-113 under 35 USC §103(a) as being unpatentable over Arai et al. in view of Nagayama et al., Feurestein et al., Bennett, and Yamamoto et al. and further in view of Bertelsen. This rejection is also respectfully traversed.

These claims are dependent claims. Therefore, for at least the reasons discussed above for independent claims, these claims are also patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claims 114-116

The Examiner also rejects Claims 114-116 under 35 USC §103(a) as being unpatentable over Arai et al. in view of Nagayama et al., Feuerstein et al., Bennett, and Yamamoto et al. or in the alternative, over Arai et al., in view of Nagayama et al., Feuerstein et al., Bennett, Monk and Yamamoto et al. further in view of Bertelsen. This rejection is also respectfully traversed.

These claims are dependent claims. Therefore, for at least the reasons discussed above for independent claims, these claims are also patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claims 117-119

The Examiner also rejects Claims 117-119 under 35 USC §103(a) as being unpatentable over Arai et al. in view of Nagayama et al., Bennett, Grothe et al. and Yamamoto et al. further in view of Bertelsen. This rejection is also respectfully traversed.

These claims are dependent claims. Therefore, for at least the reasons discussed above for independent claims, these claims are also patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claims 120-122

The Examiner also rejects Claims 120-122 under 35 USC §103(a) as being unpatentable over Arai et al. in view of Nagayama et al., Bennett, Grothe et al., Monk and Yamamoto et al. further in view of Bertelsen. This rejection is also respectfully traversed.

These claims are dependent claims. Therefore, for at least the reasons discussed above for independent claims, these claims are also patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claims 145-148

The Examiner also rejects Claims 145-148 under 35 USC §103(a) as being unpatentable over Arai et al. in view of Nagayama et al., Feuerstein et al., Bennett, and Yamamoto et al. and further in view of either Noguchi et al. (US 4,596,735) or Martin (US 4,469,719). This rejection is also respectfully traversed.

These claims are dependent claims. Therefore, for at least the reasons discussed above for independent claims, these claims are also patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claims 149-152

The Examiner also rejects Claims 149-152 under 35 USC §103(a) as being unpatentable

over Arai et al., in view of Nagayama et al., Feuerstein et al., Bennett, and Yamamoto et al., or in the alternative, over Arai et al., in view of Nagayama et al., Feuerstein et al., Bennett, Monk, and Yamamoto et al., further in view of either Noguchi et al. or Martin. This rejection is also respectfully traversed.

These claims are dependent claims. Therefore, for at least the reasons discussed above for independent claims, these claims are also patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Conclusion

It is respectfully submitted that the present application is in a condition for allowance and should be allowed.

If any fee should be due for this response, please charge our deposit account 50/1039.

Favorable reconsideration is earnestly solicited.

Date: March 4, 2010

Respectfully submitted,

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